

ABSTRACT

A scanning camera with a rotating drum has one or more sensors characterized by a non-
5 radial optical axis. With two sensors on opposite sides of the drum and facing in
substantially the same direction, stereoscopic recording of a panorama is accomplished as
the drum rotates. Rapid rotation of the scanning camera produces panoramic motion
picture recording, with the final frame speed dependent on the sensitivity and speed of
the sensor, the resolution desired, and the capabilities of the recording device. The
10 preferred embodiment employs rotating fisheye lenses for a substantially full-sphere field
of view. Streamlining of the lens elements on the drum surface is described for quiet
operation of the camera, even at high rotation speeds. The rapid rotation of the drum
characteristic of motion picture frame rates can improve both the stability and portability
of the camera. The gyroscopic effect of the rotating weight of the drum can increase the
15 stability of the camera, and the apparent weight of the camera can be reduced by the
lifting effect of aerodynamic elements such as rotors added to the rotating drum. The
adjustment of convergence are described that improve the viewing of stereoscopic
images. Additional sensors in the same arrangement are used to increase resolution
through multiplexed recording of the image data. Recording image information using
20 film, either internal or external to the camera drum, is also described as a cost-effective
alternative to digital media storage.